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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/746,390	12/21/2000	Jens Kossmann	GFB-5 DIV	9564

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NEW YORK, NY 10020-1105

EXAMINER

FOX, DAVID T

ART UNIT	PAPER NUMBER
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1638

DATE MAILED: 01/06/2003

11

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No. 09/746,380	Applicant(s) Kossman et al
Examiner FOX	Group Art Unit 1638

—The MAILING DATE of this communication appears on the cover sheet beneath the correspondence address—

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE -3- MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, such period shall, by default, expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

Status

- ☒ Responsive to communication(s) filed on 10/17/02
- ☒ This action is **FINAL**.
- ☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- ☒ Claim(s) 42, 51-57, 60-62, 65-69, 73-76, 81, 88-106 is/are pending in the application.
- Of the above claim(s) _____ is/are withdrawn from consideration.
- ☐ Claim(s) _____ is/are allowed.
- ☒ Claim(s) 48, 51-57, 60-62, 65-69, 73-76, 81, 88-106 is/are rejected.
- ☐ Claim(s) _____ is/are objected to.
- ☐ Claim(s) _____ are subject to restriction or election requirement.

Application Papers

- ☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.
- ☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.
- ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- ☐ The specification is objected to by the Examiner.
- ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119 (a)-(d)

- ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
 - ☒ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been received.
 - ☒ received in Application No. (Series Code/Serial Number) 09/045,360
 - ☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

Attachment(s)

- ☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____
- ☐ Interview Summary, PTO-413
- ☐ Notice of Reference(s) Cited, PTO-892
- ☐ Notice of Informal Patent Application, PTO-152
- ☐ Notice of Draftsperson's Patent Drawing Review, PTO-948
- ☐ Other _____

Office Action Summary

Art Unit: 1638

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Applicants' amendments of 17 October 2002 and accompanying arguments have overcome the objection to the specification and the rejections under 35 USC 101, second paragraph of 112, 102 and 103.

Claim 104-106 (newly submitted) are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claims 103-106 are drawn to certain percentages of sequence identity. Page 5 of the specification, lines 30-33, provide literal support for sequence identities of "at least 60%", "more than 80%", and "more than 90%". Page 9, lines 33-36 provide literal support for complementarity of "at least 90%" and "at least 95%". However, there is no support for "*at least* [emphasis added] 80%" sequence identity, or for "at least 90% [or 95%]" *sequence identity* [emphasis added]. Accordingly, claims 104-106 are drawn to NEW MATTER.

Claims 48, 51-57, 60-62, 65-69, 73-76, 81 and 88-106 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for the claim limitations indicated on page 3 of the last office action, bottom paragraph, does not reasonably provide enablement for broadly recited claims. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention

Art Unit: 1638

commensurate in scope with these claims, as stated for claims 48-49, 51-57, 60-63, 65-69, 73-76, 81 and 88-95 on pages 3-7 of the last office action.

Applicants' arguments filed 17 October 2002 have been fully considered but they are not persuasive. Applicants urge that the claimed gene encodes an alpha-glucan water dikinase as illustrated by a reference appended to the amendment, that the claims have been amended to recite "stringent conditions", that the specification provides guidance for identifying and evaluating various fragments and variants, that the Examiner's cited art is inapplicable to the instant situation, that claims specifically drawn to ribozymes have been cancelled, and that the specification provides a structural and functional description for the instantly claimed nucleic acid molecules.

Regarding the protein encoded by the claimed gene, the Examiner notes that the instant specification provides little guidance as to its function, other than describing it as a protein capable of phosphorylating starch or glycogen. The submission of a later-published reference which provides a different characterization of the protein contradicts Applicants' assertions that the specification provides a functional description of the encoded protein (or the nucleic acid molecule encoding it). Furthermore, the Examiner has not received the Ritte et al reference. See also In re Glass, 181 USPQ 31, 34 (CCPA 1974), which teaches that references published after the filing date of an application may not be relied upon for the enablement of the specification.

Regarding the hybridization language, the Examiner maintains that "stringent conditions" encompass low or moderately stringent conditions which would recover a multitude of unrelated

Art Unit: 1638

nucleic acids encoding a multitude of unrelated proteins. Applicants are encouraged to amend the claims to insert --highly-- before "stringent", if basis for same exists in the specification.

Alternatively, Applicants may amend the claims as exemplified for claim 48 below:

In claim 48, part (c), before the semicolon, insert -- , wherein the nucleic acid molecule of (c) encodes a polypeptide that is present in plant cells in starch granule-bound form as well as soluble form and that is involved in the phosphorylation of starch when expressed in plants and/or that increases the phosphorylation of glycogen when expressed in *E. coli*--.

Regarding the art cited by the Examiner, the Examiner maintains that the references teach the general unpredictability inherent in antisense RNA-mediated alteration of starch fine structure in transgenic plants. Applicants' assertions are insufficient to overcome this evidence, in view of the lack of any real guidance in the specification regarding the evaluation of a multitude of "fragments" of as little as 15 base pairs, or "hybridizing" variants or variants of less than 80% similarity which would widely diverge from the exemplified nucleic acids.

Regarding ribozymes, claim 61 is broadly drawn to any method of reduction of gene expression, which would include ribozymes. Furthermore, claim 61 does not even recite that plant transformation is involved in the reduction, or that a particular nucleic acid is used to confer the reduction.

Claims 48, 51-57, 60-62, 65-69, 73-76, 81 and 88-106 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the

Art Unit: 1638

application was filed, had possession of the claimed invention, as stated for claims 48-49, 51-57, 60-63, 65-69, 73-76, 81 and 88-95 on pages 7-8 of the last office action.

Applicants' arguments filed 17 October 2002 have been fully considered but they are not persuasive. Applicants urge that the instant claims are drawn to structurally and functionally defined nucleic acids, unlike the situation in the cited case law. The Examiner maintains that the function of the encoded protein is in question, as stated above. Furthermore, Applicants have not identified any particular regions in the protein which are conserved or which are responsible for the particular enzymatic function. Thus, Applicants have not in fact structurally and functionally defined the encoded proteins or the nucleic acids encoding them.

The claims are free of the prior art, given the failure of the prior art to teach or suggest isolated nucleic acids encoding granule-bound or soluble proteins with glucan phosphorylation activity, or plant transformation therewith.

No claim is allowed.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period

Art Unit: 1638

will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

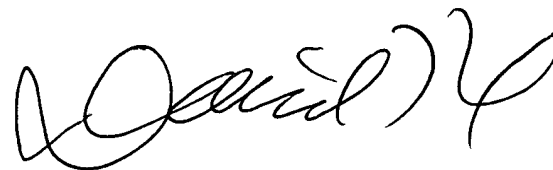
Any inquiry concerning this communication or earlier communications from the examiner should be directed to David T. Fox whose telephone number is (703) 308-0280. The examiner can normally be reached on Monday through Friday from 10:30AM to 7:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amy Nelson, can be reached on (703) 306-3218. The fax phone number for this Group is (703) 872-9306. The after final fax phone number is (703) 872-9307.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0196.

January 3, 2002

DAVID T. FOX
PRIMARY EXAMINER
GROUP 180-1638

A handwritten signature in black ink, appearing to read "David T. Fox", is written over the typed name and title.